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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/195,093	11/18/98	LIU	C 98-RTRN-400

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PM82/1007

EXAMINER

HO, H

ART UNIT	PAPER NUMBER
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3681

DATE MAILED: 10/07/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/195,093

Applicant(s)

Chia-hsiang Liu

Examiner

Ha Ho

Group Art Unit

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☒ Responsive to communication(s) filed on Nov 18, 1998

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-27 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-27 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 4

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

1. This is the first Office Action on the merits of Application No. 09/195,093 filed on 11/18/98. Claims 1-27 are currently pending.

Claim Objections

2. Claims 3, 4, 15, 19, and 20 are objected to because of the following informalities:

In claim 3, line 1, --value-- should be inserted after "said idle drive torque."

In claim 4, line 2, --value-- should be inserted after "said idle drive torque."

In claim 15, line 3, --said-- should be inserted after "equal to."

In claim 15, line 4, --said-- should be inserted after "and."

In claim 19, line 1, --value-- should be inserted after "said idle drive torque."

In claim 20, line 2, --value-- should be inserted after "said idle drive torque."

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 2, 3, 8, 11, 13, 15, 16, 18, 19, 21, and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2 and 18 recite "the vehicle brakes" in line 2, claims 3 and 19 recite "the rated input torque" in line 2, and claim 16 recites the limitation "the vehicle brakes" in line 8. There is insufficient antecedent basis for this limitation in the claim.

The recitations in claims 11 and 24 "the protocols of one of SAE J1922, SAE J1939 and/or ISO 11898" render claims indefinite. It would be possible that the standard of the protocols of one of SAE J1922, SAE J1939 and/or ISO 11898 could change time to time.

The recitation in claim 13 "(about 5 KPH)" renders claim indefinite. It is unclear if the limitation in the parenthesis is part of the claim.

The terms "may be" in line 1 of claim 15 render the claims indefinite. It is not clear that if the recitations preceded by this term are part of the claims.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 1-5, 7-10, 12-15, 17-21, 23 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurihara et al. (US 4,838,397) in view of Kumura et al. (US 4,576,265).

Kurihara teaches an apparatus for controlling vehicle including an engine (2), a transmission (4), a master friction clutch (5), a clutch operator (21, 7), an operator-set throttle device (17, 28), an engine controller (22), and a system controller (23) for receiving input signals including signals indicative of displacement of the throttle device (from sensor 18) and speed of the vehicle (from sensor 11). The apparatus of Kurihara would perform the method for controlling the clutch including the steps of comparing throttle device displacement to a first reference value (col. 5, lines 40-47) and vehicle speed to a second reference value (col. 6, lines 26-33); and causing the engine to rotate at a selected speed and causing the clutch to be engaged if throttle device displacement is no greater than the first reference value (col. 7, lines 17-68). Kurihara discloses the clutch engaged in the low speed running mode even when the engine assumes idling speed in the case where the gear transmission is shifted into the first or second gear position (col. 5, lines 4-8). Kurihara does not specify a specific idle drive torque value for clutch engagement when throttle device displacement is no greater than the first reference value. Kumura discloses a method for controlling clutch when the engine idles including the steps of comparing throttle device displacement to a first reference value and vehicle speed to a second reference value (col. 5, lines 19-29); if throttle device displacement is no greater than the first reference value and vehicle speed is less than the second value, causing the engine to rotate at a selected speed (col. 6, lines 11-20), and causing the clutch to be engaged to have a torque transfer

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capacity equal to the idle drive torque (col. 6, line 32-34). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Kurihara's apparatus to have a function such that the clutch would be engaged to have a torque transfer capacity equal to the idle drive torque when throttle device displacement is no greater than the first reference value and vehicle speed is less than the second value in view of Kumura in order to shorten time for the clutch engaging from idling of the engine, and to reduce shocks upon clutch engagement for starting the vehicle (col. 1, lines 35-55).

Regarding claims 2-4 and 18-20, Kumura discloses the clutch engaged to transmit a small torque (col. 6, lines 32-34). It would have been an obvious matter of design choice to provide the idle drive torque of Kumura to have a value to be sufficient to move the vehicle if the brakes are not applied but insufficient to move the vehicle if the brakes are applied, or a value less than 10% of the rated input torque of the transmission, or a value in the range of 20-40 pound-feet; and select an engine to transmit torque to the transmission having a rated input torque in the range of 400-600 pound-feet, since such a modification would have involved a mere change in the size or capacity of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Regarding claims 7-9 and 23, Kurihara shows the clutch (5) being a dry-type clutch not a liquid-cooled wet clutch. Kumura shows the clutch (1004) being a wet-type multiple plate clutch. It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the dry-type clutch of Kurihara by the wet-type multiple plate clutch of Kumura,

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since the examiner takes Official Notice of the equivalence of the dry-type and wet-type multiple plate clutches for their use in the vehicle transmission art and the selection of any of these known clutch types to use in the Kurihara's transmission would be within the level of ordinary skill in the art.

Regarding claims 13 and 26, Kumura discloses the second value being a small value (col. 5, lines 20-21) but leaves it up to one of ordinary skill to determine a specific speed. It would have been obvious to one of ordinary skill in the art to select 3 MPH or for that matter any MPH value for the second reference value such that according to Kumura would not render any unobvious or unexpected result.

Regarding claim 15, Kurihara discloses the engine controller (22) to command the engine generating a torque at the engine output (col. 4, lines 12-33). It would have been an obvious matter of design choice to provide the engine controller of Kurihara to generate a torque at the engine output equal to the gross engine torque minus parasitic engine torque, since such a modification would have involved a mere change in the size or capacity of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

7. Claims 6 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurihara et al. (US 4,838,397) in view of Kumura et al. (US 4,576,265) as applied to claims 1 and 17 above, and further in view of Chan (US 5,441,462).

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Kurihara does not show the transmission utilizing positive jaw clutches. Chan shows a transmission (12) being a mechanical transmission using positive jaw clutches (col. 3, lines 49-51). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the positive jaw clutches in the transmission of Kurihara in view of Chan, since the examiner takes Official Notice of the equivalence of any clutch types for their use in the transmission art and the selection of positive jaw clutch to use in the transmission of Kurihara would be within the level of ordinary skill in the art.

8. Claims 11 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurihara et al. (US 4,838,397) in view of Kumura et al. (US 4,576,265) as applied to claims 1 and 17 above, and further in view of Genise (US 5,509,867).

Kurihara shows the vehicle control apparatus (100) shown in Fig. 5 being a microcomputer system (col. 8, lines 5-22) and engine controller (22) communicating with the unit controller (100) (see Fig. 5). Kurihara does not specify the electronic data link conforming to the protocol SAE J1939. Genise shows a control system having an engine controlled by an ECU over an electronic data link of the type defined in the SAE J1939 (col. 10, 38-42). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have an electronic data link conforming to the protocol of SAE J1939 in the engine controller of Kurihara in view of Genise, since the examiner takes Official Notice of the equivalence of any electronic data link types for their use in the engine controller art and the selection of the SAE

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J1939 protocol to use in the ECU of Kurihara would be within the level of ordinary skill in the art.

9. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kumura et al. (US 4,576,265) .

Kumura discloses a method for controlling a vehicle master clutch (1004) comprising: sensing operation of an operator throttle position device and vehicle speed (col. 5, lines 19-29), causing the vehicle master clutch engaged to a small torque if the operator throttle position is less than a throttle reference value (col. 6, lines 32-34). Kumura does not specify an idle drive torque value sufficient to launch the vehicle if the transmission is in low gear and the brakes are not applied. It would have been an obvious matter of design choice to provide the idle drive torque of Kumura to have a value to be sufficient to move the vehicle if the transmission is in low gear and the brakes are not applied but insufficient to move the vehicle if the brakes are fully applied, since such a modification would have involved a mere change in the size or capacity of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Cited Prior Art

10. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure: Esthimer'222 (clutch control), Morimoto'396 (clutch control), Ohkumo'712 (clutch

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control), Jones'609 (clutch control), Jamzadeh'869 (clutch control), Hattori'231 (clutch control), and Kurihara'305 (clutch control) are cited.

Communication

11. Submission of your response by facsimile transmission is encouraged. Group 3600's facsimile number is **(703) 305-3597**. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence not permitted by facsimile transmission, see M.P.E.P. 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check **should not be** submitting by facsimile transmission separately from the check. Responses submitted by facsimile transmission should include a Certificate of Transmission (M.P.E.P.. 512). The following is an example of the format the certification might take:

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office (Fax No. (703) 305-3597) on _____
(Date)

Typed or printed name of person signing this certificate:

(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and M.P.E.P.. 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

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12. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Examiner Ho whose telephone number is (703) 305-0738. The examiner can normally be reached on Monday-Friday from 7:30 A.M. to 4:00 P.M. Eastern Standard Time. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Mr. Charles Marmor, can be reached on (703) 308-0830. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2168.

HH

Ha Ho

September 29, 1999

Charles A. Marmor 9/30/99
CHARLES A. MARMOH
SUPERVISORY PATENT EXAMINER
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